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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,522	07/31/2001	Stanley F. Wyse	L-390	3654

7590

03/13/2003

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EXAMINER

LE, DAVID D

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,522

Applicant(s)

WYSE, STANLEY F.

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-13,15-17,19 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,15-17,19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This is the second Office action on the merits of Application No. 09/919,522, filed 31 July 2001. Claims 1-20 are pending.

Documents

1. The following documents have been received and filed as part of the patent application:
 - Declaration and Power of Attorney, received on 01/14/02
 - Drawings, received on 04/15/02
 - Amendment, received on 01/13/03

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because the current abstract has exceeded 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3-12, 13, and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- Claim 1 recites the limitation "the derivative" in the claim. There is insufficient antecedent basis for this limitation in the claim.
- Claim 13 recites the limitation "the slewing" in the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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7. Claims 1, 3, 5, 7-9, 11, 13, 17, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,138,883 to Paquet et al.

Claims 1, 13, and 17:

Paquet (column 2, lines 18-68; column 3, line 33 – column 4, line 46) discloses a typical two-degree-of-freedom, dry tuned rotor gyroscope comprising:

- a first forcer for applying a torque with respect to a first axis of said rotor in response to a first signal (column 2, lines 24-68);
- a second forcer for applying a torque to said rotor with respect to a second axis, orthogonal to said first axis, in response to a second signal (column 2, lines 24-68); and
- a cross-axis circuit for receiving said first signal and generating said second signal in response so that said second signal drives said second forcer to precess said rotor with respect to said first axis to substantially cancel the effect of torque applied to said rotor with respect to said first axis by said first forcer (column 2, lines 24-68);

Claims 3, 5, 7-9, 11, and 19:

Paquet (column 2, lines 18-68; column 3, line 33 – column 4, line 46) also discloses

- wherein said at least one cross-axis circuit generates said second signal comprising the derivative of said first signal (column 5, lines 16-37);
- wherein the gain of said at least one cross-axis circuit is inversely proportional to the nutation frequency of said rotor (column 8, lines 54-68);

- wherein said at least one cross-axis circuit comprises an operational amplifier (column 7, line 67 - column 8, line1);
- a second cross-axis circuit arranged to receive said second signal and to generate said first signal in response thereto (column 2, lines 24-30);

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 6, 10, 12, 15-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paquet et al. in view of U. S. Patent No. 4,189,946 to Hoffman et al.

Claims 4, 6, 10, 12, 15-16, and 20:

Paquet discloses all elements and limitations as set forth in claims 1, 5, 7, 11, 13, and 17. Regarding claims 4, 6, 10, 12, 15-16, and 20, Paquet lacks:

- wherein the transfer function $T(s)$ of said at least one cross axis circuit is $T(s) = \frac{Ks}{(s + 2\pi k f_{nut})}$ where k is an integer and f_{nut} is the nutation frequency of said rotor;
- wherein said at least one cross-axis circuit comprises an operational amplifier including a feedback resistor in parallel with a feedback capacitor;

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Hoffman (column 3, lines 41-57; column 7, lines 8-19) discloses a three-axis gyro comprising all elements and limitations that Paquet lacks above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Paquet reference to include the transfer function equation and further to replace Paquet series type of arrangement amplifier with a parallel type of arrangement between the feedback resistors and capacitors in view of Hoffman in order to provide an gyroscope with an improved angular rate sensing capability.

Response to Arguments

10. Applicant's arguments filed 13 January 2003 have been fully considered but they are not persuasive.

Applicant argues that Paquet et al. makes no reference to the slewing of a gyro or to the problems associated therewith.

Although, Paquet does not explicitly address the slewing of a gyro and the problems associated therewith; however, Paquet (column 4, lines 15-17) discloses a strapdown arrangement, wherein the gyros are secured to the body axes of the vehicle and are required to sense the full range of dynamics of the vehicle.

The examiner appreciates the applicant's great effort in explaining the differences between the present application and the applied prior arts. As set forth above, the limitations do not distinguish the claimed subject matters from the references as applied to the claims.

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Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.



ddl

March 10, 2003



RODNEY H. BONCK
PRIMARY EXAMINER
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